Access DB# 105284

# SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: RALPH GITOMER Examiner #: 69630 Date: 10/3/03
Art Unit: 1651 Phone Number 30 8-0732 Serial Number: 09/626,566
Mail Box and Bldg/Room Location: 11B01 / 11D11 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

**********

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: _____

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

RECEIVED
OCT - 3 2003
(STIC)

**********

**STAFF USE ONLY**

Searcher: Hanley
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: 10/6
Date Completed: 10/14
Searcher Prep & Review Time: _____
Clerical Prep Time: _____
Online Time: _____

**Type of Search**

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) 1
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

**Vendors and cost where applicable**

STN _____
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

# STIC Search Report
## Biotech-Chem Library

STIC Database Tracking Number: 105284

| TO: | From : |
|---|---|
| Ralph J Gitomer<br>Location: CM-1/11D11/11B01<br>Art Unit : 1651<br>Tuesday, October 14, 2003<br><br>Case Serial Number: 09/626566 | Susan Hanley<br>Location: Biotech-Chem Library<br>CM1 6B05<br>Phone: 305-4053<br><br>susan.hanley@uspto.gov |

## Search Notes

parent STR

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=> d que 149
L13                 STR
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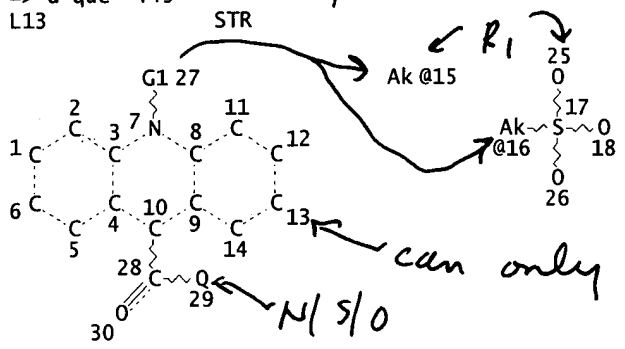


on ring

can only have substitution here

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  24

STEREO ATTRIBUTES: NONE
L15          639 SEA FILE=REGISTRY SSS FUL L13
L39              STR
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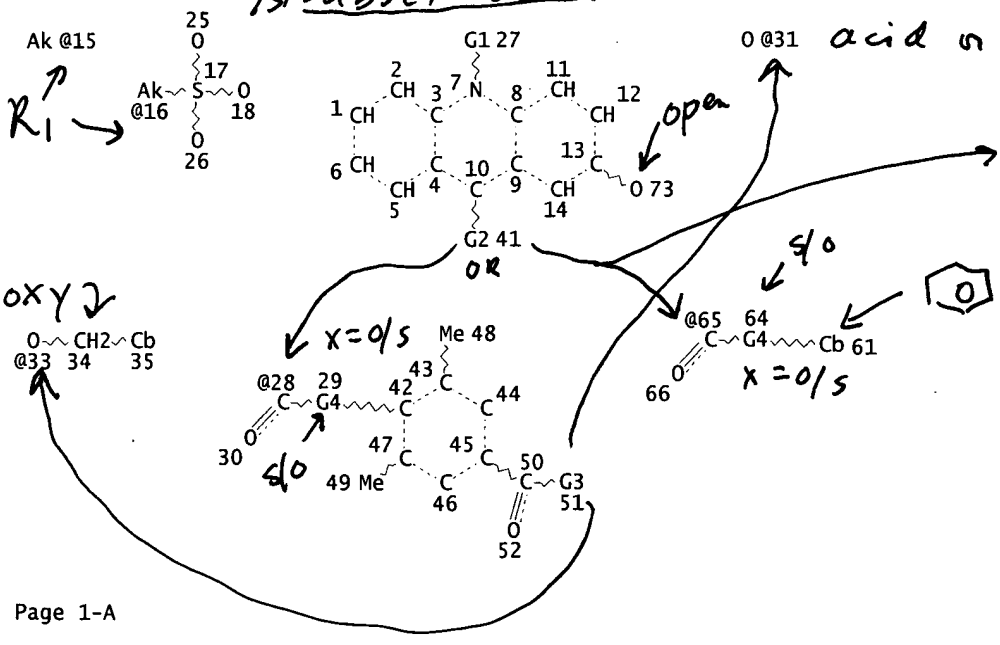
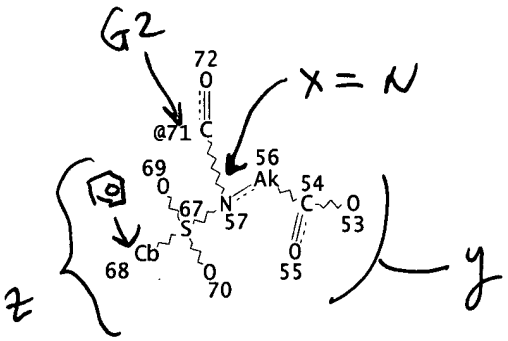
639 cpds from parent search

1st Subset STR




See next page for when X = N

Page 1-A




Page 2-A
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VAR G3=31/33
VAR G4=O/S
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DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 35
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GGCAT IS MCY UNS AT 61
DEFAULT ECLEVEL IS LIMITED
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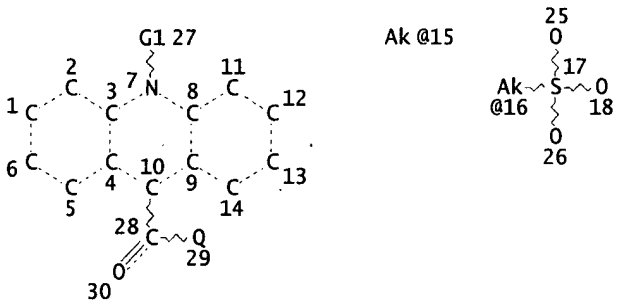
GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 56

STEREO ATTRIBUTES: NONE
L40 17 SEA FILE=REGISTRY SUB=L15 SSS FUL L39 17 cpds from subset STR
L49 2 SEA FILE=CAPLUS ABB=ON PLU=ON L40 2 cites

parent
same STR search as before

=> d que l50
L13 STR







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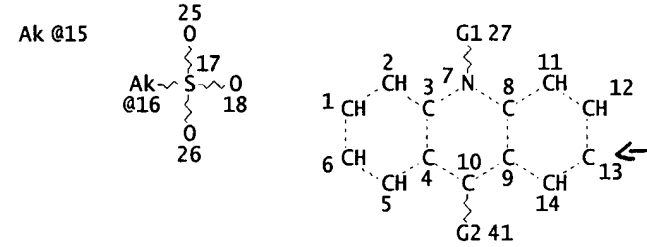
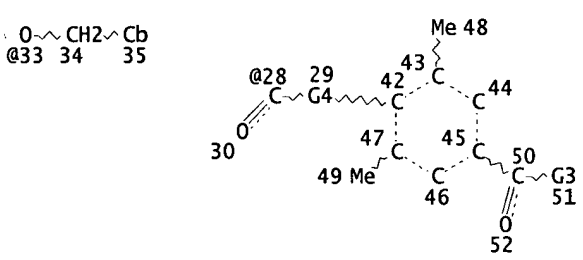
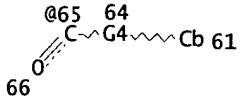
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE
L15 639 SEA FILE=REGISTRY SSS FUL L13 639 cpds from parent search
L37 STR 2nd subset str

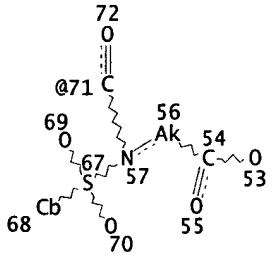



everything else is the same as the 1st subset str, L39

Page 1-A

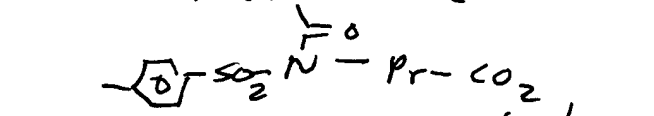



Page 2-A
VAR G1=15/16
VAR G2=71/28/65
VAR G3=31/33
VAR G4=O/S
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 15
CONNECT IS E2 RC AT 16
CONNECT IS E1 RC AT 31
CONNECT IS E2 RC AT 44
CONNECT IS E2 RC AT 46
CONNECT IS E1 RC AT 53
CONNECT IS E2 RC AT 56
CONNECT IS E1 RC AT 61
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 35

GGCAT IS LIN SAT AT 56
GGCAT IS MCY UNS AT 61
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E6 C AT 35
ECOUNT IS E6 C AT 61

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 55

STEREO ATTRIBUTES: NONE
L38 76 SEA FILE=REGISTRY SUB=L15 SSS FUL L37 76 cpds from 2nd subset STR
L42 37 SEA FILE=REGISTRY ABB=ON PLU=ON L38 AND N>1
L43 26 SEA FILE=REGISTRY ABB=ON PLU=ON L42 AND S/ELS
L48 9 SEA FILE=REGISTRY ABB=ON PLU=ON L43 AND "CARBOXYPROPYL" } looking for cpds that have
L50 17 SEA FILE=CAPLUS ABB=ON PLU=ON L48



even if they don't have $OSO_3$ or a sugar moiety

=> s l49-50
L52 19 (L49 OR L50) 19 cites total

=> d ibib abs hitstr 1-19

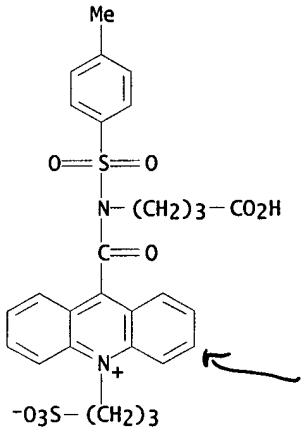
L52 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:72743 CAPLUS
DOCUMENT NUMBER: 136:129025
TITLE: Immunoassay reagents and methods and test kits for the detection and quantification of vancomycin in biological fluids
INVENTOR(S): Adamczyk, Maciej; Brate, Elaine M.; Perkowitz, Mary M.; Rege, Sushil D.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 47 pp., Cont.-in-part of U.S. Ser. No. 26,869, abandoned.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2002009708 | A1 | 20020124 | US 1998-174121 | 19981016 |
| CA 2346717 | AA | 20000427 | CA 1999-2346717 | 19991015 |
| WO 2000023806 | A1 | 20000427 | WO 1999-US24270 | 19991015 |
| W: CA, JP | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 1121599 | A1 | 20010808 | EP 1999-956580 | 19991015 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002528704 | T2 | 20020903 | JP 2000-577495 | 19991015 |

PRIORITY APPLN. INFO.: US 1995-416567 B1 19950404
US 1998-26869 B2 19980220
US 1998-174121 A 19981016
WO 1999-US24270 W 19991015
OTHER SOURCE(S): MARPAT 136:129025
AB Immunoassay reagents, methods and test kits for the specific quantification of vancomycin in a test sample are disclosed. The reagent comprises antibodies prepd. with immunogens which is conjugated to a carrier protein and the carboxylic acid terminal of vancomycin by a linking moiety. Also described is the synthesis of labeled reagents where vancomycin is conjugated with preferably fluorescein or fluorescein derivs. via a 0 to 50 carbon linking moiety through the N-methylleucyl amine.
IT **211106-69-3**, 10-(3-Sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide

RL: RCT (Reactant); RACT (Reactant or reagent)
(immunoassay reagents and methods and test kits for detection and quantification of vancomycin in biol. fluids)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)




only similar to claimed STR

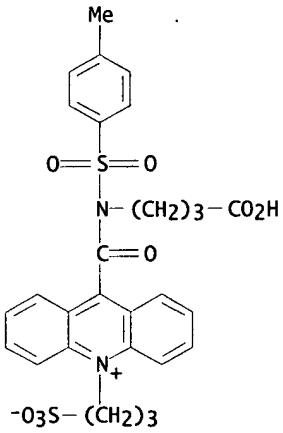
← missing -OPO3 or O-Sugar

L52 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:843438 CAPLUS
DOCUMENT NUMBER: 136:163576
TITLE: Characterization of acridinium-9-carboxamide-monoclonal antibody bioconjugates by electrospray ionization mass spectrometry
AUTHOR(S): Gebler, John C.; Adamczyk, Maciej; Shreder, Kevin; Wu, Jiang
CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 345-348. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69CAFI
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The extent, distribution, and regiospecificity of labeling monoclonal antibodies with acridinium-9-carboxamide salts were evaluated using an electrospray ionization mass spectrometry method. Antibody acridinium-9-carboxamide were prepd. by placing monoclonal anti-biotin antibody with different molar equivalents of acridinium-9-carboxamide active ester. The bioconjugates of anti-biotin monoclonal antibody with acridinium active esters were purified and then digested with papain to its Fab and Fc fragments. Two major total-ion-count peaks were obsd. originating from the Fc and Fab fragments. The use of ESI-MS method allowed the ready anal. of the av. labeling no., distribution, and the region-modification of various labels conjugated to monoclonal antibodies. This anal. can be applied to study, prep., and characterize antibody conjugates to ensure the prodn. of high quality immunoreagents.

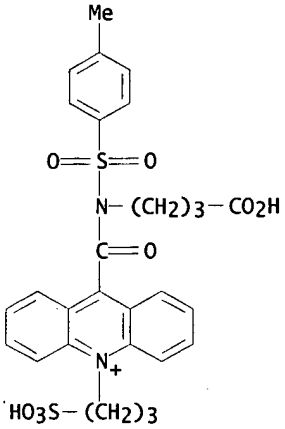
IT **211106-69-3D**, conjugates with monoclonal antibody
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(characterization of acridinium-9-carboxamide-monoclonal antibody bioconjugates by electrospray ionization mass spectrometry)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:843437 CAPLUS
DOCUMENT NUMBER: 136:147288
TITLE: Quantitation of free chemiluminescent acridinium-9-carboxamide salts in bioconjugates
AUTHOR(S): Gebler, John C.; Adamczyk, Maciej; Shreder, Kevin; Wu, Jiang
CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 341-344. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69CAFI
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The content of noncovalently bound acridinium-9-carboxamide in bioconjugates was quant. detd. using liq. chromatog.-electrospray tandem mass spectrometry (LC/MS/MS) selected reaction monitoring technique. The results showed that the method used is simple, fast, and selective. The method required no sample pretreatment, and afforded the sensitivity, accuracy, and precision necessary for the quant. measurement. The procedure described is useful for advanced bioconjugate characterization.
IT **395070-14-1 395070-15-2**
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(quantitation of free chemiluminescent acridinium-9-carboxamide salts in bioconjugates)
RN 395070-14-1 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)- (9CI) (CA INDEX NAME)



RN 395070-15-2 CAPLUS
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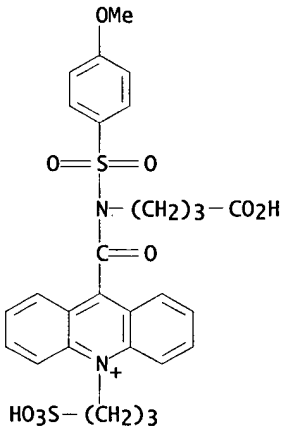

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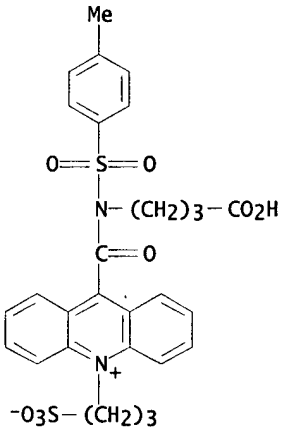
L52 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:843407 CAPLUS
DOCUMENT NUMBER: 136:147381
TITLE: Too much of a good thing? Modulating the signal of acridinium-9-carboxamide salts
AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Fishpaugh, Jeffrey R.; Mattingly, Phillip G.; Moore, Jeffrey A.; Pan, You; Shreder, Kevin; Yu, Zhiguang
CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 211-214. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69CAFI
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Four labels were prepd. with widely different chemiluminescent profiles.

Each of these was converted to chemiluminescent tracers for prototypic immunoassays for phenobarbital and phenytoin, two analytes that are found in the micromolar concn. range. N10-(3-sulfopropyl)-N-sulfonylacridinium-9-carboxamide salts were synthesized in a three step sequence consisting of acylating a sulfonamide ester with acridine-9-carboxylic acid chloride, sulfopropylating the acridine N10 position with 1,3-propanesultone and finally removing the ester protecting group with aq. HCl. Each tracer was purified by reversed-phase HPLC to achieve greater than 98% purity. The total light output from each tracer was essentially the same, but the rate of light produced by each tracer differed by as much as 20-fold. The changes in the sulfonamide substituents in the series had no effect on the affinity of the tracers for their antibodies.

IT **211106-69-3 246874-12-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(too much of a good thing modulating signal of acridinium-9-carboxamide salts)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 246874-12-4 CAPLUS
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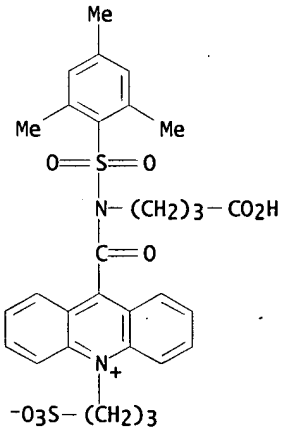
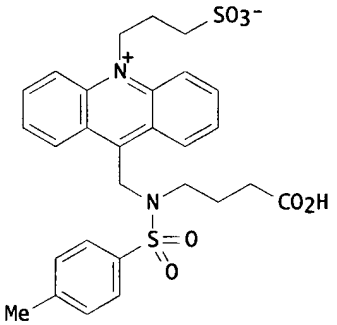


REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:843406 CAPLUS
DOCUMENT NUMBER: 137:140426
TITLE: Microwave-assisted synthesis of chemiluminescent acridinium salts
AUTHOR(S): Adamczyk, Maciej; Mattingly, Phillip G.; Chen, Yon-Yih; Fino, James R.
CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Bioluminescence & Chemiluminescence, Proceedings of the International Symposium, 11th, Pacific Grove, CA, United States, Sept. 6-10, 2000 (2001), Meeting Date 2000, 207-210. Editor(s): Case, James F. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69CAFI
DOCUMENT TYPE: Conference
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:140426
GI

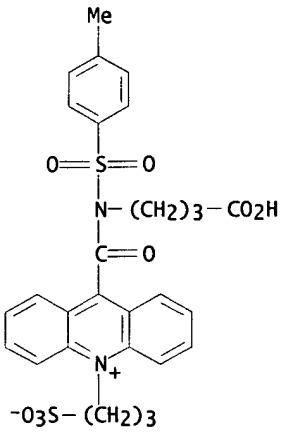



I

AB The usefulness of microwave irradn. in the synthesis of acridinium-9-carboxamide chemiluminescent labels, e.g., I, was evaluated. The dielec. heating in a microwave oven (1 min, medium power) of a mixt. of acridine-9-carboxamide and 1,3-propane sultone gave only traces of the desired product after hydrolysis. During optimization of the reaction conditions, three factors were found to affect the reaction, i.e., the ratio of 1,3-propane sultone to acridine, the duration and intensity of the dielec. heating, and presence of an acid scavenger. The high temp. achieved in the microwave oven might decomp. the propane sultone into acidic byproducts that could protonate the acridine-9-carboxamide, rendering it unreactive. The acridinium-9-carboxamide products were isolated in 70-80% yield after extn. of the excess 1,3-propane sultone into ether, acid hydrolysis, and chromatog. purifn.

IT **211106-69-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of sulfopropylacridines via microwave assisted addn. of acridinecarboxamides to propane sultone)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



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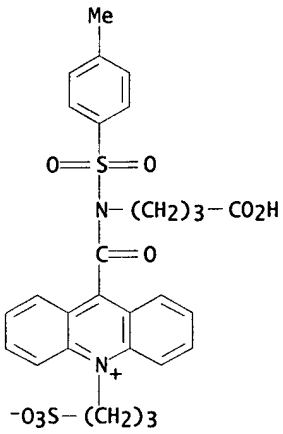
L52 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:361769 CAPLUS
DOCUMENT NUMBER: 135:164391
TITLE: Quantitative determination of noncovalently bound acridinium in protein conjugates by liquid chromatography/electrospray ion trap mass spectrometry
AUTHOR(S): Adamczyk, Maciej; Gebler, John C.; Shreder, Kevin; Wu, Jiang
CORPORATE SOURCE: Department of Chemistry (9NM), Abbott Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Rapid Communications in Mass Spectrometry (2001), 15(9), 670-674
CODEN: RCMSEF; ISSN: 0951-4198
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A sensitive and robust liq. chromatog./electrospray ion trap mass spectrometry (LC/MS/MS) method has been developed for the quant. detn. of noncovalently bound acridinium free acid in protein-acridinium conjugates. The lower level of quantitation (LOQ) for acridinium free acid was detd. to be 0.6 ng. The assay was validated with a linear concn. range of 0.6-60 ng. The method requires min. sample handling and is specific, reproducible, and provides a new aspect for protein-acridinium conjugate characterization.
IT **211106-69-3D**, reaction cojugates with proteins
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(acridinium in protein conjugates detn. by liq. chromatog./electrospray ion trap mass spectrometry)
RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

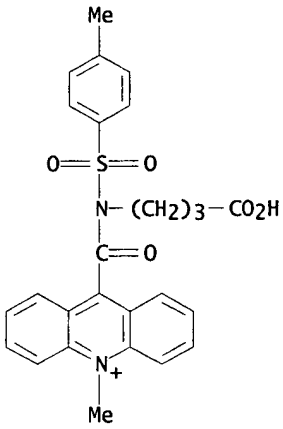


REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:276197 CAPLUS
DOCUMENT NUMBER: 135:30811
TITLE: Design of acridinium-9-carboxamides and anti-acridinium antibodies for chemiluminescent signal enhancement
AUTHOR(S): Adamczyk, Maciej; Mattingly, Phillip G.; Moore, Jeffrey A.; Pan, You; Shreder, Kevin; Yu, Zhiguang
CORPORATE SOURCE: Department of Chemistry (9NM) Abbott Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Bioconjugate Chemistry (2001), 12(3), 329-331
CODEN: BCCHES; ISSN: 1043-1802
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A novel system of signal enhancement is presented in which every labeled antibody is capable of generating a signal. Three chemiluminescent acridinium-9-carboxamide haptens (1, 2, and 3) which incorporated differences in charge and location of the linker were designed and synthesized. Anti-acridinium polyclonal antibodies for each hapten were screened using surface plasmon resonance instrumentation to det. specificity for each hapten. Anti-acridinium 2 antibodies were found to be non-cross-reactive to acridinium 1. This property was exploited to design secondary antibody conjugates which would bind to primary antibodies labeled with 2 yet could still be labeled with the structurally similar acridinium 1. Consequently, both layers contributed to the overall chemiluminescent signal. This format is an advance over other signal amplification formats which employ non-signal-generating, labeled antibodies to construct multilayered systems.
IT **344360-40-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(acridinium-9-carboxamides synthesis and anti-acridinium antibodies for chemiluminescent signal enhancement)
RN 344360-40-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-methyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

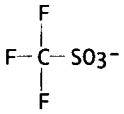
CM 1

CRN 344360-39-0
CMF C26 H25 N2 O5 S



CM 2

CRN 37181-39-8
CMF C F3 O3 S



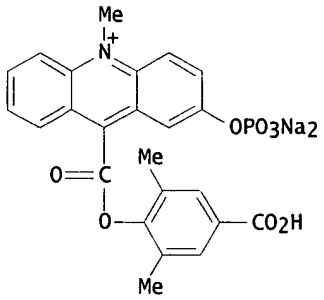
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:101348 CAPLUS
DOCUMENT NUMBER: 134:159459
TITLE: Chemiluminescent substrates of hydrolytic enzymes such as phosphatases
INVENTOR(S): Jiang, Qingping; Natrajan, Anand; Sharpe, David J.; Wong, Wen-jee; Law, Say-jong
PATENT ASSIGNEE(S): Bayer Corporation, USA
SOURCE: PCT Int. Appl., 156 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Applicant cite for priority document

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001009372 | A1 | 20010208 | WO 2000-US20429 | 20000727 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1203091 | A1 | 20020508 | EP 2000-950764 | 20000727 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | | |

IE, SI, LT, LV, FI, RO, MK, CY, AL
JP 2003528938 T2 20030930 JP 2001-513627 20000727
PRIORITY APPLN. INFO.: US 1999-146648P P 19990730
WO 2000-US20429 W 20000727
OTHER SOURCE(S): MARPAT 134:159459
GI



I

AB Chemiluminescent substrates of hydrolytic enzymes are disclosed having the general Formula Lumi-M-P, where Lumi is a chemiluminescent moiety capable of producing light (a) by itself, (b) with MP attached and (c) with M attached, wherein the different properties of Lumi-M-P and Lumi-M allow them to be distinguished. Lumi includes, but is not limited to, acridinium compds. (e.g. acridinium esters, carboxyamides, thioesters, and oxime esters), reduced forms thereof (e.g. acridans), and spiroacridan compds. M is selected from oxygen, nitrogen and sulfur. P is a group that can be readily removed by hydrolytic enzymes to give Lumi-M and P. The hydrolytic enzyme can be phosphatase, glycosidase, peptidase, protease, esterase, sulfatase, and guanidinobenzoatase. Thus, 2-Phos-DMAE (I) is synthesized and shown to be an excellent substrate of hydrolytic alk. phosphatase to form 2-OH-DMAE. Both I and 2-OH-DMAE are chemiluminescent, but emit light light at different emission maxima when they are treated with H2O2 in strong alk. soln. I emits a strong, visible blue light at .lambda.max 478 nm while 2-OH-DMAE emits a strong, visible orange light at .lambda.max 602 nm, thus resulting in a bathochromic shift of emission max. by 128 nm. One of the advantages in using chemiluminescent acridinium substrates like I to detect hydrolytic enzymes is that the products generated by the enzyme can be accumulated without undergoing significant decompn. during the enzymic reaction. In addn., under certain conditions the chemiluminescence from I is selectively and significantly suppressed, and thereby the overall signal differentiation of 2-OH-DMAE over I is improved. A heterogeneous immunoassay is also provided demonstrating I utility as a substrate for the chemiluminescent detection of TSH in human serum.

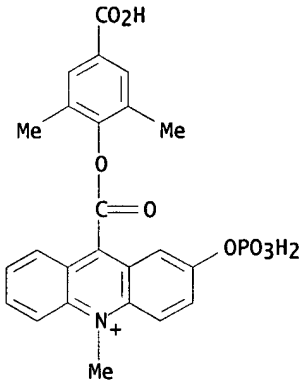
IT **324762-34-7P**
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)

RN 324762-34-7 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-10-methyl-2-(phosphonooxy)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

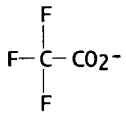
CM 1

CRN 324762-33-6
CMF C24 H21 N O8 P



CM 2

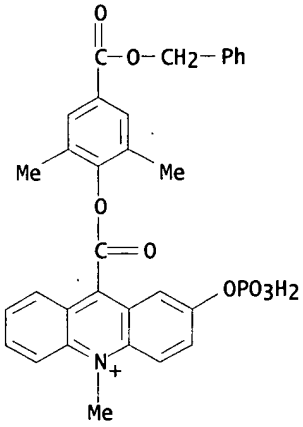
CRN 14477-72-6
CMF C2 F3 O2



IT **324762-37-0P 324762-38-1P 324762-42-7P**
RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)
RN 324762-37-0 CAPLUS
CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-10-methyl-2-(phosphonooxy)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

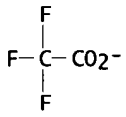
CM 1

CRN 324762-36-9
CMF C31 H27 N O8 P



CM 2

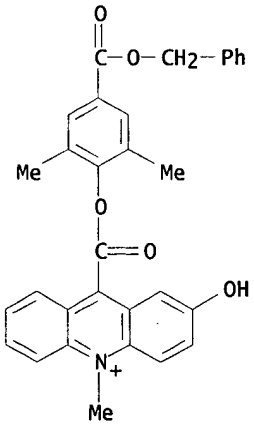
CRN 14477-72-6
CMF C2 F3 O2



RN 324762-38-1 CAPLUS
CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-2-hydroxy-10-methyl-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

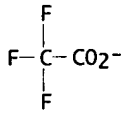
CM 1

CRN 259169-46-5
CMF C31 H26 N O5



CM 2

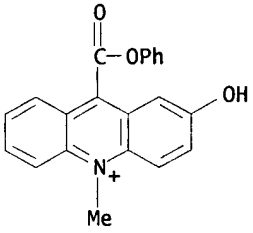
CRN 14477-72-6
CMF C2 F3 O2



RN 324762-42-7 CAPLUS
CN Acridinium, 2-hydroxy-10-methyl-9-(phenoxycarbonyl)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

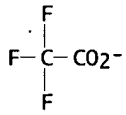
CM 1

CRN 324762-41-6
CMF C21 H16 N O3



CM 2

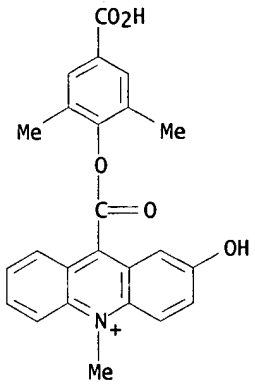
CRN 14477-72-6
CMF C2 F3 O2



IT **324762-35-8P 324762-40-5P 324762-43-8P**
**324762-44-9P**
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)
RN 324762-35-8 CAPLUS
CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-methyl-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

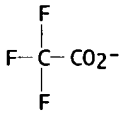
CM 1

CRN 259169-42-1
CMF C24 H20 N O5



CM 2

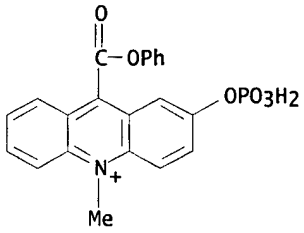
CRN 14477-72-6
CMF C2 F3 O2



RN 324762-40-5 CAPLUS
CN Acridinium, 10-methyl-9-(phenoxycarbonyl)-2-(phosphonooxy)-, salt with trifluoroacetic acid (1:1) (9CI) (CA INDEX NAME)

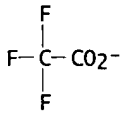
CM 1

CRN 324762-39-2
CMF C21 H17 N O6 P

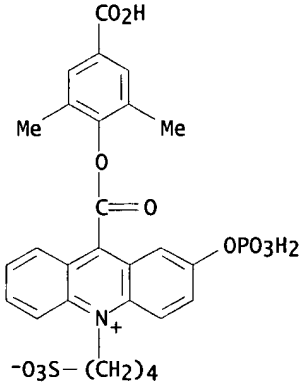


CM 2

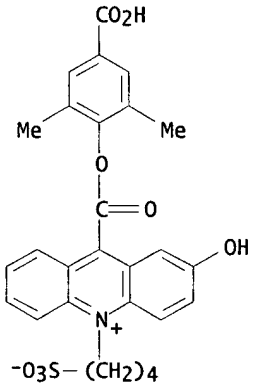
CRN 14477-72-6
CMF C2 F3 O2



RN 324762-43-8 CAPLUS
CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-(phosphonooxy)-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)

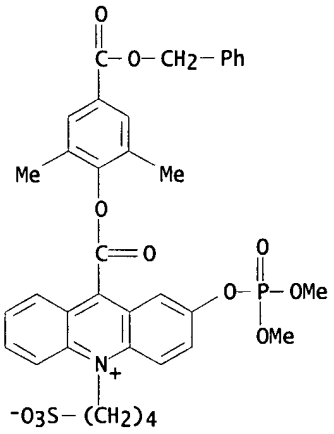


RN 324762-44-9 CAPLUS
CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)

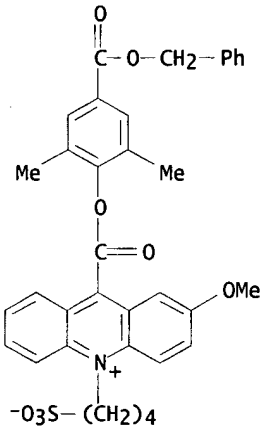


IT **324762-62-1P 324762-64-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(chemiluminescent substrates of hydrolytic enzymes such as phosphatases)

RN 324762-62-1 CAPLUS
CN Acridinium, 2-[(dimethoxyphosphinyl)oxy]-9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



RN 324762-64-3 CAPLUS
CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-2-methoxy-10-(4-sulfobutyl)-, inner salt (9CI) (CA INDEX NAME)



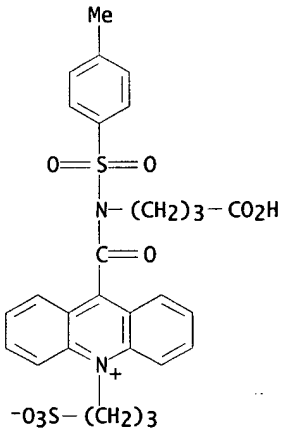
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:485469 CAPLUS
DOCUMENT NUMBER: 133:263374
TITLE: Linker-Mediated Modulation of the Chemiluminescent Signal from N10-(3-Sulfopropyl)-N-sulfonylacridinium-9-carboxamide Tracers
AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Fishpaugh, Jeffrey R.; Mattingly, Phillip G.; Pan, You; Shreder, Kevin; Yu, Zhiguang
CORPORATE SOURCE: Diagnostics Division Department of Chemistry, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Bioconjugate Chemistry (2000), 11(5), 714-724
CODEN: BCCHES; ISSN: 1043-1802
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Four chemiluminescent N-sulfonylacridinium-9-carboxamide active esters (17-20) were prepd. from the corresponding acids and coupled to both of the aminated phenobarbital (13) and N-(6-aminohexyl)phenytoin (16) haptens. The level of signal produced by chemiluminescent

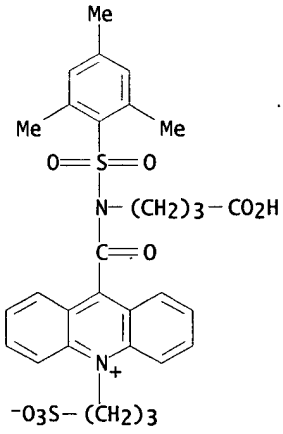
N-sulfonylacridinium-9-carboxamide phenobarbital and phenytoin tracers in a solid-phase immunoassay format was found to be modulated by at least 20-fold by the judicious choice of the reactive acridinium-hapten linking group.

IT **211106-69-3 246874-12-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(in tracer prepn.; linker-mediated modulation of chemiluminescent signal from sulfopropyl sulfonylacridinium carboxamide tracers)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 246874-12-4 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(2,4,6-trimethylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:304129 CAPLUS
DOCUMENT NUMBER: 133:69108
TITLE: Evaluation of chemiluminescent estradiol conjugates by using a surface plasmon resonance detector
AUTHOR(S): Adamczyk, M.; Chen, Y.-Y.; Gebler, J. C.; Johnson, D. D.; Mattingly, P. G.; Moore, J. A.; Reddy, R. E.; Wu, J.; Yu, Z.

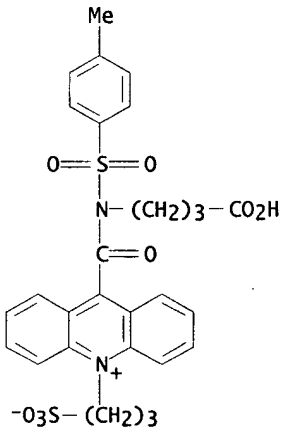
CORPORATE SOURCE: Diagnostics Division, Department of Chemistry, Abbott Laboratories, Abbott Park, IL, USA
SOURCE: Steroids (2000), 65(6), 295-303
CODEN: STEDAM; ISSN: 0039-128X
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A series of chemiluminescent 17.beta.-estradiol probes were synthesized. Relative equil. dissocn. consts. (KD) for the interaction of an anti-E2 Fab fragment for the probes in soln. were evaluated using a single E2-analog biosensor surface on a BIAcore surface plasmon resonance instrument. The results show the antibody fragment binds all chemiluminescent conjugates tested with high affinity showing only minor preferences for site of substitution (C6 vs. C7), stereochem. (.alpha. vs. .beta.), or linker moiety.

IT **211106-69-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(in chemiluminescent estradiol conjugate prepn.)

RN 211106-69-3 CAPLUS

CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)




REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:133665 CAPLUS
DOCUMENT NUMBER: 132:191423
TITLE: Synthesis of near infrared chemiluminescent acridinium compounds and their application for labeling proteins and nucleotides
INVENTOR(S): Natrajan, Anand; Jiang, Qingping; Sharpe, David; Law, Say-Jong
PATENT ASSIGNEE(S): Bayer Corporation, USA
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Applicant

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000009487 | A1 | 20000224 | WO 1999-US18076 | 19990810 |

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,

MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
AU 9954739 A1 20000306 AU 1999-54739 19990810
EP 1104405 A1 20010606 EP 1999-941005 19990810
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
US 6355803 B1 20020312 US 1999-371489 19990810
JP 2002522530 T2 20020723 JP 2000-564941 19990810
US 2002076823 A1 20020620 US 2001-6421 20011206
PRIORITY APPLN. INFO.: US 1998-96073P P 19980811
US 1999-371489 A3 19990810
WO 1999-US18076 W 19990810

AB Our results identify two sets of necessary and sufficient criteria for observing long-wavelength emission from acridinium compds.: Set A: (a) the creation of an extended conjugation system by the attachment of appropriate functional groups on the acridinium nucleus (electronic requirement); (b) coplanarity of the attached functional group and the acridone moiety during light emission (geometry requirement); (c) said functional group must consist of at least one arom. ring and one electron-donating atom or group with an extra pair of electrons which can readily delocalize into the extended .pi. system to which the heteroatom is directly attached or built into, and establish stable extended resonance with the electron-withdrawing carbonyl moiety of the light emitting acridone. Such electron-donating atom or group that exists in the form of an anion has particularly strong effect to further the bathochromic shift of the emission wavelength. Set B: (a) A direct attachment at one or more of positions C-2, C-4, C-5, or C-7 of the acridinium nucleus, of electron-donating atoms or groups having extra pair(s) of electrons. The electron-donating entities can be the same or different if more than one electron-donating entity is used. Such electron-donating atom or group that exists in the form of an anion has particularly strong effect to further the bathochromic shift of the emission wavelength. For mols. for which the above criteria are met such as LEAE, 3-HS-DMAE, and 2-hydroxy-DMAE long wavelength-emission exceeding 500 nm and reaching into NIR region is expected and obsd. Preferably, the utility of an NIR-AC of comparable quantum yield as the conventional acridinium compds. goes hand-in-hand with the employment of a luminescence detector of good to excellent detection efficiency. To achieve efficient NIR signal detection and facilitate the performing of diagnostic assays, a further objective of the present invention is the advance of a concept and the realization of substituting a state-of-the-art charge-coupled device (CCD) detector for the red-insensitive photomultiplier tube (PMT) in a conventional fully or semi-automatic analyzer such as MLA-II of Chiron Diagnostics, Walpole, MA.

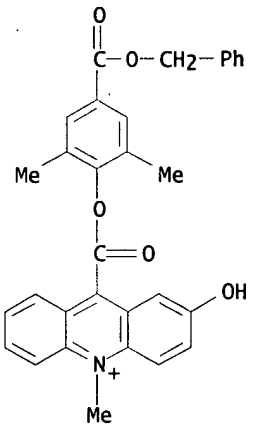
IT **259169-47-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(2-MEM-DMAE-Bz; synthesis of near IR chemiluminescent acridinium compds. and application for labeling proteins and nucleotides)

RN 259169-47-6 CAPLUS

CN Acridinium, 9-[[2,6-dimethyl-4-[(phenylmethoxy)carbonyl]phenoxy]carbonyl]-2-hydroxy-10-methyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

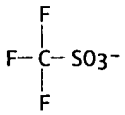
CM 1

CRN 259169-46-5
CMF C31 H26 N O5

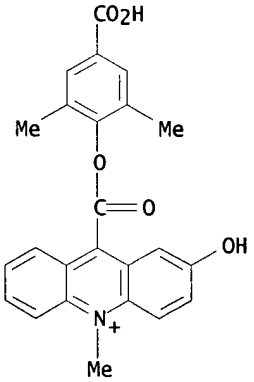


CM 2

CRN 37181-39-8
CMF C F3 O3 S

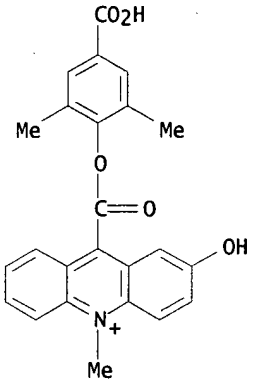


IT **259169-42-1P**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(2-OH-DMAE; synthesis of near IR chemiluminescent acridinium compds. and application for labeling proteins and nucleotides)
RN 259169-42-1 CAPLUS
CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-methyl- (9CI) (CA INDEX NAME)



IT **259169-42-1DP**, conjugate with Vancomycin A probe
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of near IR chemiluminescent acridinium compds. and application for labeling proteins and nucleotides)
RN 259169-42-1 CAPLUS

CN Acridinium, 9-[(4-carboxy-2,6-dimethylphenoxy)carbonyl]-2-hydroxy-10-methyl- (9CI) (CA INDEX NAME)



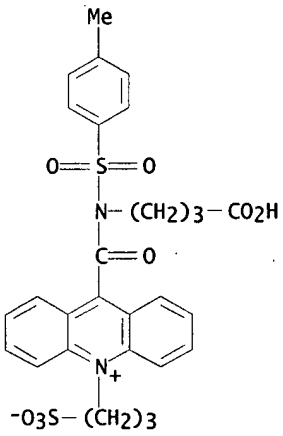

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:569948 CAPLUS
DOCUMENT NUMBER: 131:286100
TITLE: Modulation of the chemiluminescent signal from N10-(3-sulfopropyl)-N-sulfonylacridinium-9-carboxamides
AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Mattingly, Phillip G.; Moore, Jeffrey A.; Shreder, Kevin
CORPORATE SOURCE: Diagnostics Division, Department of Chemistry (09NM), Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Tetrahedron (1999), 55(36), 10899-10914
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

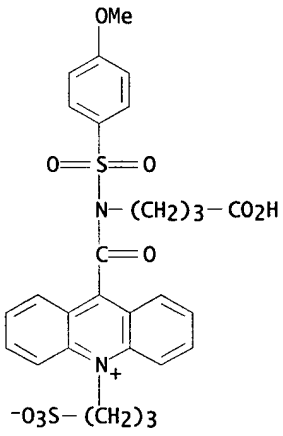
AB Acridinium salts were synthesized from the corresponding sulfonamides and their chemiluminescence profiles were compared. The quantity of light emitted over the time studied did not correlate well with the pKa of sulfonamide leaving group. Rather, steric factors contributed the most to modulating the light output from these compds. The mesitylsulfonyl substituent of acridinium salt reduced the chemiluminescence signal by 20-fold relative to the ref. acridinium salt.

IT **211106-69-3P 246874-10-2P 246874-11-3P 246874-12-4P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(modulation of chemiluminescent signal from sulfopropyl sulfonylacridinium carboxamides)

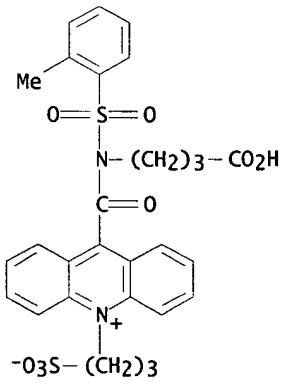
RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



RN 246874-10-2 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methoxyphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

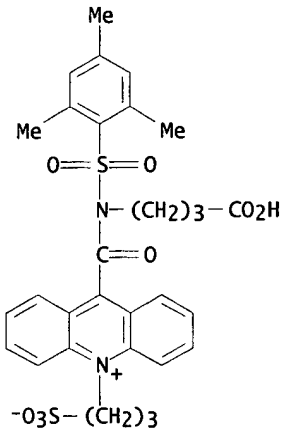


RN 246874-11-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(2-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



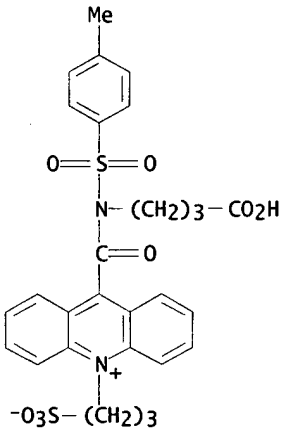
RN 246874-12-4 CAPLUS

CN Acridinium, 9-[[(3-carboxypropyl)[(2,4,6-trimethylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:496855 CAPLUS
DOCUMENT NUMBER: 132:109353
TITLE: Sulfopropylated chemiluminescent N-sulfonylacridinium-9-carboxamide salts
AUTHOR(S): Adamczyk, M.; Chen, Y. Y.; Mattingly, P. G.; Pan, Y.
CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-3500, USA
SOURCE: Bioluminescence and Chemiluminescence: Perspectives for the 21st Century, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 10th, Bologna, Sept. 4-8, 1998 (1999), Meeting Date 1998, 37-40. Editor(s): Roda, Aldo. Wiley: Chichester, UK.
CODEN: 67YCAD
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Sulfopropylated acridinium compds. suitable for chemiluminescent labeling were prepd. using neopentyl 3-(trifluoromethylsulfonyloxy)propanesulfonate as a sulfopropylation reagent.
IT **211106-69-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of sulfopropylated acridinium chemiluminescent labels)
RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



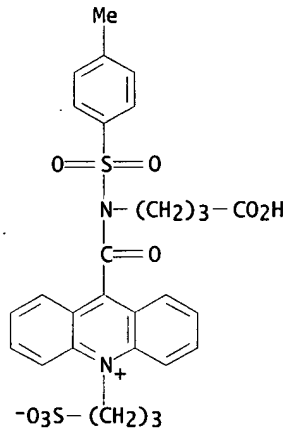
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:491612 CAPLUS
DOCUMENT NUMBER: 131:269135
TITLE: Synthesis of a Chemiluminescent Acridinium Hydroxylamine (AHA) for the Direct Detection of Abasic Sites in DNA
AUTHOR(S): Adamczyk, Maciej; Mattingly, Phillip G.; Moore, Jeffrey A.; Pan, You
CORPORATE SOURCE: Department of Chemistry Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-6016, USA
SOURCE: Organic Letters (1999), 1(5), 779-781
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:269135

AB The synthesis of a chemiluminescent acridinium hydroxylamine (AHA) for the direct detection of abasic sites in damaged nucleic acids is described. The reagent reacts readily with abasic sites of damaged calf thymus DNA generated in a time-dependent manner under acid/heat depurination conditions. Preliminary results indicate the sensitivity of the direct chemiluminescent detection format is .apprx.0.1 abasic sites detected per 106 nucleotides using as little as 200 ng of DNA.

IT **211106-69-3**, 10-(3-Sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of a chemiluminescent acridinium hydroxylamine (AHA) for the direct detection of abasic sites in DNA)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

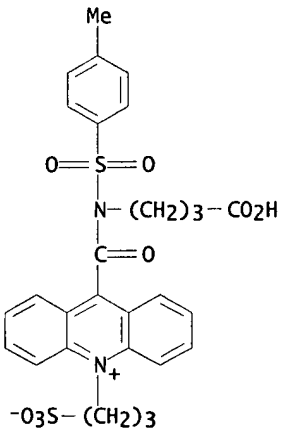


REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:50614 CAPLUS
DOCUMENT NUMBER: 130:168228
TITLE: Tracermer signal generators: an arborescent approach to the incorporation of multiple chemiluminescent labels
AUTHOR(S): Adamczyk, Maciej; Fishpaugh, Jeffrey; Mattingly, Phillip G.; Shreder, Kevin
CORPORATE SOURCE: Department of Chemistry (D9NM), Diagnostics Division, Abbott Laboratories, Abbott Park, IL, 60064-3500, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(24), 3595-3598
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The synthesis, conjugation, and chemiluminescent evaluation of zero, first, and second order acridinium-based Tracermer signal generators are described. Members of this family of labels have potential use as tracers in diagnostic assays and are structurally similar to arborol dendrimers. Tracermer-BSA conjugates showed up to a sixfold increase in light emission compared to the normal acridinium label.

IT **211106-69-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acridinium-based Tracermer signal generators similar to arborol dendrimers)
RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



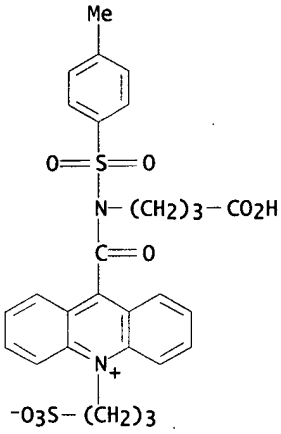
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:699810 CAPLUS
DOCUMENT NUMBER: 130:20048
TITLE: Detection of reaction intermediates by flow injection electrospray ionization mass spectrometry: reaction of chemiluminescent N-sulfonylacridinium-9-carboxamides with hydrogen peroxide
AUTHOR(S): Adamczyk, Maciej; Fishpaugh, Jeffrey R.; Gebler, John C.; Mattingly, Phillip G.; Shreder, Kevin
CORPORATE SOURCE: Diagnostics Division, Division Organic Chemistry (9-NM), Abbott Laboratories, Abbott Park, IL, 60064, USA
SOURCE: European Mass Spectrometry (1998), 4(2), 121-125
CODEN: EMSPFW; ISSN: 1356-1049
PUBLISHER: IM Publications
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Flow injection electrospray mass spectrometry was used to detect the intermediates and products formed during the reaction of chemiluminescent acridinium salts under the conditions necessary for light emission. A stream of aq. alk. hydrogen peroxide was mixed with an aq. soln. of N-sulfonylacridinium-9-carboxamide salt immediately prior to entering the ESI-MS interface. The resulting neg.-ion mass spectra corresponded to the expected 9-hydroperoxide adduct, the acridone end product normally seen in the chemiluminescent reaction, and unreacted acridinium salt, with no indication of the postulated spirodioxetanone intermediate or competing pseudobase.

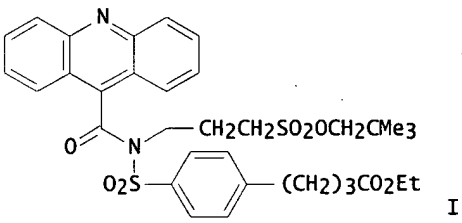
IT **211106-69-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(detection of reaction intermediates by flow injection electrospray ionization mass spectrometry for chemiluminescent reaction of N-sulfonylacridinium-9-carboxamides with hydrogen peroxide)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:496334 CAPLUS
DOCUMENT NUMBER: 129:175541
TITLE: Neopentyl 3-Triflyloxypropanesulfonate. A Reactive Sulfopropylation Reagent for the Preparation of Chemiluminescent Labels
AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Mattingly, Phillip G.; Pan, You; Rege, Sushil
CORPORATE SOURCE: Diagnostics Division Division Organic Chemistry (9-NM) Building AP 20, Abbott Laboratories, Abbott Park, IL, 60064, USA
SOURCE: Journal of Organic Chemistry (1998), 63(16), 5636-5639 CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:175541
GI

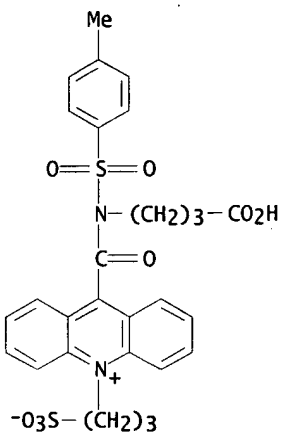


I

AB Whereas 1,3-propane sultone failed to react with acridine deriv. I under forcing conditions, triflate Me3CCH2OSO2(CH2)3OTf was sufficiently reactive at room temp. to quaternize I at the N10 nitrogen. The hydrolyzed product has good aq. soly. and may be used as a chemiluminescent labeling reagent.

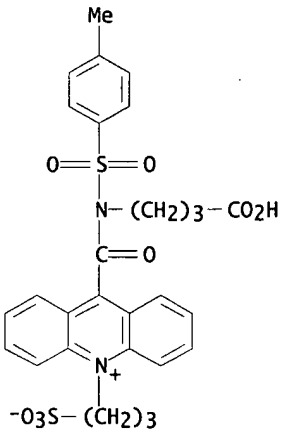
IT **211106-69-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(sulfopropylation of acridine derivs. by neopentyl triflyloxypropanesulfonate)

RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)




REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:401947 CAPLUS
DOCUMENT NUMBER: 129:161755
TITLE: Estradiol-mimetic probes. Preparation of 17.alpha.-(6-aminohexynyl)estradiol biotin, fluorescein and acridinium conjugates
AUTHOR(S): Adamczyk, Maciej; Chen, Yon-Yih; Moore, Jeffrey A.; Mattingly, Phillip G.
CORPORATE SOURCE: Diagnostics Division, Abbott Laboratories, Department of Chemistry, Dept. 09NM, Abbott Park, IL, 60064-3500, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (1998), 8(11), 1281-1284
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 3-O-tert-Butyldimethylsilyl-17.alpha.-(6-mesyloxyhexynyl)estradiol was converted to the azide in 60-70% yield with NaN3/DMPU, then reduced to the corresponding amine (>95% yield). Acylation with the N-hydroxysuccinimide esters of biotin, 5-carboxyfluorescein and 10-(3-sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide gave the title conjugates. The KDs of the tracers with an estradiol antibody ranged from 97-197 nM.
IT **211106-69-3**, 10-(3-Sulfopropyl)-N-tosyl-N-(3-carboxypropyl)acridinium-9-carboxamide
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and binding affinity of 17.alpha.-(6-aminohexynyl)estradiol biotin, fluorescein and acridinium conjugates)
RN 211106-69-3 CAPLUS
CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-(3-sulfopropyl)-, inner salt (9CI) (CA INDEX NAME)

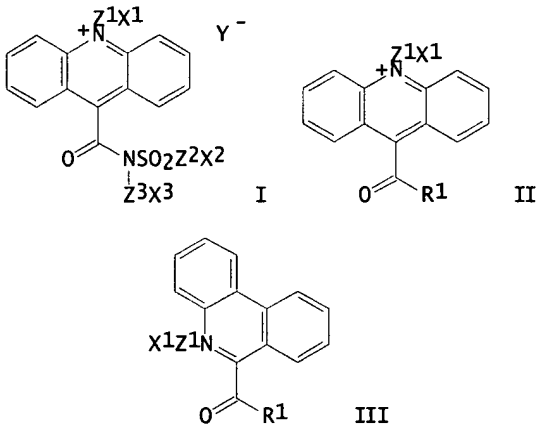


REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L52 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:497109 CAPLUS
DOCUMENT NUMBER: 111:97109
TITLE: Acridinium salts in chemiluminescence immunoassay
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 63112564 | A2 | 19880517 | JP 1987-267581 | 19871021 |
| JP 08016103 | B4 | 19960221 | | |
| EP 273115 | A2 | 19880706 | EP 1987-114490 | 19871005 |
| EP 273115 | A3 | 19881026 | | |
| EP 273115 | B1 | 19940907 | | |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| ES 2063735 | T3 | 19950116 | ES 1987-114490 | 19871005 |
| AU 8779794 | A1 | 19880428 | AU 1987-79794 | 19871015 |
| AU 613586 | B2 | 19910808 | | |
| US 5468646 | A | 19951121 | US 1995-368258 | 19950103 |
| US 5543524 | A | 19960806 | US 1995-442266 | 19950516 |
| US 5545739 | A | 19960813 | US 1995-442275 | 19950516 |
| US 5565570 | A | 19961015 | US 1995-440295 | 19950516 |
| US 5669819 | A | 19970923 | US 1995-442052 | 19950516 |
| US 5783699 | A | 19980721 | US 1995-442050 | 19950516 |

PRIORITY APPLN. INFO.: US 1986-921979 19861022
US 1989-371763 19890623
US 1995-368258 19950103
OTHER SOURCE(S): MARPAT 111:97109
GI



AB Chemiluminescent compds., e.g. I (Y = not defined; Z1, Z2, Z3, X1, X2, X3 = substituent which does not interfere chemiluminescence; X1Z1, X2Z2, X3Z3 may be H), useful in an immunoassay, are prepd. from acridinium salts II or phenanthridine III. (Although intermediates and the final products are listed with data, there is no specific example); X3Z3NHSO2Z2X2 in PhMe was treated with Me3COK in the presence of PhCH2Bu3N+Br-, followed by addn. of 9-chlorocarbonylacridine-HCl to give the corresponding N-sulfonyl-9-acridinecarboxamide, which in CH2Cl2 was treated with Na2CO3 and Me triflate to afford e.g. 10-Me-N-phenyl-N-(p-toluenesulfonyl)-9-acridiniumcarboxamide trifluoromethanesulfonate.. 10-Methyl-N-tosyl-N-(2-carboxyethyl)-9-acridiniumcarboxamide trifluoromethanesulfonate in anti-hTSH assay showed a sensitivity of 0.016 .mu.IU/mL, vs. 0.05 .mu.IU/mL for Abbot-hTSH-EIA (enzymic immunoassay) kit.

IT **122308-97-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for chemiluminescence immunoassay)

RN 122308-97-8 CAPLUS

CN Acridinium, 9-[[(3-carboxypropyl)[(4-methylphenyl)sulfonyl]amino]carbonyl]-10-methyl-, inner salt (9CI) (CA INDEX NAME)